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## THE PORTUGUESE IN THE TRACK OF COLUMBUS.

BY

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III.

THE CHART.\*

The chart, when unfolded for the first time by a connoisseur of ancient cartography, cannot but fill his mind with wonderment and positive surprise.

Used as he has been to the scanty presentations of the New World in the Cosa-chart and in the Ptolemies of 1508 and 1513, the never-dreamt-of revelation is unrolled before his eyes, that the Portuguese, already in the year 1501, were able to draw a map showing the correct outlines of the Eastern and the Western World (as far as then discovered), and encompassing the two Atlantic valleys, North and South—the whole of it a picture, as if taken from a modern chart. A grand and noble production, indeed! It invited little Portugal's fortunate monarch to embrace, with one single glance, the boundaries of the great kingdom, that he and his forefathers had silently conquered for themselves in the mysterious Atlantic during the short space of about sixty years. Lusitania's blue banner, with its five black balls, is perceived floating on the shores of the Eastern, the Northern, and the new Western Continent. It is planted on the western coast of Africa, as well as on that of

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\* See last page of the Bulletin.

Greenland, Labrador, and Brazil, and it was not without deep significance that the Cape Verde Island of *Santiago* had been chosen as the central point around which King Emanuel's new world moved.

Nothing was spared by the careful cartographer to illustrate his work. To bring land and water into clear relief, the coasts are colored green, but only on their edges, the ocean itself appearing in the color of the paper. The large islands are all painted green, the smaller ones blue, and the smallest are colored red.

Quite in the taste of the time, the interesting localities of the two continents are marked by emblematic pictures. In the remote east of Asia Minor we see the *torre de babilonja*, and over the Adriatic there is a full picture of St. Mark's Place in Venice, with its two famous columns. Moorish North Africa is in a complete state of siege, blockaded throughout with fascine baskets. On the coast of Guinea the *Fort da Mina* forms the centre of some rather droll representations. Negroes are seen dancing around; an immense golden lion across Sierra Leone is holding in its paws the banner of Portugal, while in front of it some green parrots are carrying on a lively conversation, and at a greater distance a company of white cockatoos are engaged in the same way. Brazil, on the other hand, shows as its natural emblem a flock of gaily-colored arras birds, with a background of tall forest trees. The Corte-Real land in the north is studded with an abundance of slender trees for the masts of future fleets.

The chart is of a rather imposing size; it measures 38' 6" by 41' 6".

The projection is planimetric throughout. The cob-

web lines drawn all over the surface radially converge toward a system of rectangularly distributed centres, each of these being made conspicuous by the effigy of a compass-rose. In this respect the chart must be ranged among the well-known ancient compass charts.\* Simultaneously, however, another cartographic feature is met with, this being an intersection of lines drawn across and lengthwise, but not in accordance with our strict system of meridians and parallels. For it will be observed that these cross-lines do not follow one another at distances of measured geographical degrees. Their succession is not marked by numbers, nor was the equatorial line taken as a starting base for their construction. Nevertheless, this delineation, as it stands, was not made without a certain practical purpose. For, upon closer inspection, it will be observed that the perpendiculars are made to pass through the ports and places which, as long nautical experience had shown, lay along the same line from north to south. All these meridians show remarkable correctness as regards the places and ports belonging to the old continents of Europe and Africa, but there are, naturally enough, considerable mistakes in those drawn through the New Continent.†

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\* On the subject of mediæval compass-charts and navigation consult: *Sophus Ruge*, Ueber Compass und Compasskarten, *Dresden*, 1868.—*A. Breusing*, Zur Geschichte der Geographie; in *Zeitschrift für Erdkunde*, *Berlin*, 1869, *Bana IV.*, Seite 31-51 and 97-115.—*A. Breusing*, Zur Geschichte der Kartographie, in *Zeitschrift der wissenschaftlichen Geographie*, *Lahr*, 1881, *Heft 4 und 5*, Seite 129-133 and 180-195.—*Theobald Fischer*, Ueber ital. Seekarten und Kartographen des Mittelalters, in *Zeitschrift für Erdkunde*, *Berlin*, 1882, *Band 17*, Seite 20, sqq.—*Eugen Gelcich*, Beiträge zur Geschichte des Zeitalters der Entdeckungen, in *Z. f. Erdkunde*, *Berlin*, 1885, *Band 20*, pag. 280-325.—*Ernst Mayer*, Hilfsmittel der Schiffahrtskunde z. Zeit der gr. Länderentdeckungen; in *Mittheilungen aus dem Gebiete des Seewesens*, 1879, *No. IV.*

† To quote instances: the meridian of Tarragona intersects in the north

This remark, however, cannot be fairly applied to that meridian which in the shape of a broad, blue printed stripe, traverses the chart, and bears the inscription: *Este he o marco dantre castella e portugual*. "This is the boundary line between Castile and Portugal." In the north it crosses Corte Real's New Foundland, which was discovered in 1464, and re-visited by the son of the former explorer in 1500. In the south the line is seen striking the eastern shores of a large gulf that bears the name *golfo fremosso* (the roaring gulf), while the Castilian banner, planted on the left side of the line, denotes that at this point the limits of the two hostile dominions were supposed to meet. For it was at this place that Vic. Yañez Pinzon, on his return from a southern cruise as far as Cape San Roque, was able to effect a landing on the 2d of February, 1500.\*

There is, indeed, no spot to be found on our whole planet better fitted to suit the purpose of a final territorial demarcation. No doubt this *golfo fremosso* on our chart is the mouth of the great *Pará river*, while the neighboring gulf, the *Rio grande*, with the additional

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Dutch Breda and Bruges (here written Bruyas), in the south African Tunis (tunes) --a mistake of about  $1^{\circ} 33'$ . The meridian of Salonichi passes African Tolometa, with the mistake of  $1^{\circ} 89''$ . The Cape Verde Islands are in about  $15^{\circ}$  north latitude; their parallel passes through the mushroom-shaped peninsula of Parana-gua—mistake about  $3^{\circ}$ . The meridian of Santo Domingo intersects the same peninsula, and the chart shows it passing through the cabo desseado (mouths of the Orinoco and Trinidad Island), an error, therefore, of more than  $8^{\circ}$ ; and so on.

\* In *Navarrete*, Col. d. V. Tom. II., Nos. 17 and 18, page 23-35. *Ant. de Herrera*, Dec. 7., Lib. 5, cap. 6, in which the interesting statement is given that Pinzon on this expedition started from the Cape Verde Islands, evidently with the purpose of solving the problem of the *raya*, and authorized to make an anchorage on the Portuguese island, by the Capitulation de Tordesillas. *Paesi nuovamente ritrovati*, Milan, 1508, Cap. 112. *Petrus Martyr*, ital. Ed. of 1512 and 19, Cap. CXIII.

inscription : *todo este mar he de agua doce* (this whole sea is of fresh water) stands for the river *Marañon*. Both waters form the mouth of the mighty *Amazon*, the largest river of the whole world, which here empties itself into the ocean to breast another demarcation line of our globe, that of the equator.\*

The news that Pinzon had found land still farther east than that reached by Columbus at the Gulf of Paria, and that he had taken formal possession of it, reached the two monarchs on the 30th of September, 1500. At last the opportunity presented itself to settle the vexed question existing between them how to find the dividing line and where to draw it. It must be here remembered that, according to the Pope's Bull, the line was to be found one hundred leagues west of the Azores and the Cape Verde Islands. But the ambassadors of King Joam, when treating with King Ferdinand in Barcelona, had succeeded in inducing him to allow the line to be drawn two hundred and seventy leagues farther to the west, which established it at the distance of three hundred and seventy leagues from the Cape Verde Islands, the treaty being ratified by Castile on the 5th of September, 1494, and by Portugal on the 27th of February, 1495. By this treaty of Tordesillas both kings pledged themselves to equip a joint expedition for this purpose.\* But the expedition, so far as we know,

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\* Read for full information as to the exact spot of Pinzon's landing : *H. H. Smith, Brazil, the Amazons and the Coast*, New York, 1879, Scribner ; *Fr. Silva, l'Oyapoc et l'Amazon*, Tom. II., § 25-30, 25me lecture, pag. 407. On the roaring of the pororoca-wave, read : *Adalbert, Prinz von Preussen, Aus meinem Tagebuche*, S. 508, Berlin, Decker, 1847.

† *In Navarrete*, Col. de viajes, Tom. II., pag. 136 : Capitulacion de la particion del mar Oceano, hecha entre los Católicos Reyes Don Fernando y Doña

never started. Disputes arose about the difference between a degree—on the equator—and one in the latitude of the Cape Verde Islands, as well as about the value of a league and that of a degree. Jaime Ferrer,† King Ferdinand's astronomer, allows us to have a glimpse at the confusion that reigned in the minds of navigators. He writes that there are no means of making the pilots understand the astronomical side of the question; that it would be best to let ten pilots sail from the Cape Verde Islands due west, to have them register the distance sailed from six hours to six hours, and after the distance of three hundred and seventy leagues had been run, to take the average. It is beyond doubt that independent efforts must have been made by both nations to settle the matter during the five years from 1495 to 1500. But as in a due west direction there was neither island nor continent on which to plant a banner and establish a permanent and visible boundary short of the distance of six hundred and fifty leagues, at the Leeward Islands of Martinique and la Dominica, no palpable result was reached. Neverthe-

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Isabel y Don Juan, Rey de Portugal; "que se haga y asigne por el dicho mar Océano una rraya o linea derecha de Polo a Polo, ques de Norte a Sur, la qual rraya o linea e señal se haya de dar e dé derecha, como dicho es, à 370 leguas de la Ysla de Cabo Verde para la parte del Poniente, por grados o por otra manera, como mexor e mas presto se pueda dar."

\* *Navarrete*, Tom. II., pag. 99. *A. Breusing*, l. c., discusses with great clearness the methods and instruments used by the ancient mariners in calculating the distance sailed: 1, by estimating the force of the wind, *Gissung* (Engl. guessing); 2, by measuring, at any alteration of the course, the angle formed by the *tow-line* and the *keel* and by employing the *tavola de martelojo*, *Strichtafel*, first introduced in the Portuguese marine by Jacopo de Minorca, at the Academy of Sagres, 1432, which *tavola* gave the mariner a practical direction how to couple the two courses of the ship, the direct and the altered one; the further professional instruments being the Amalfitan compass and the hour-glass.

less the positive impression remained on the minds of the Castilian and the Portuguese navigators that land was to be found somewhere at the distance of three hundred and seventy leagues west of the African shores. Columbus on his second and third voyages carried instructions from the King to attend with the utmost diligence to the business of the "raya divisoria." But he did not find time for doing so, his main attention being directed to his colonial affairs in Hispaniola. Pinzon, his rival, watchful to bring himself into prominence, had now succeeded in giving a certain practical turn to the problem. His discovery, indeed, though not due west, was still to the west of the Cape Verde Islands, at a distance which he must have had means for computing as approximative to the stipulated three hundred and seventy leagues, and which, on the other hand, the Portuguese hydrographers must have been ready to accept as at all events the best suitable divisory meridian. For it happened that only ten weeks later than Pinzon (April 21) Cabral had struck Cape San Roque, had taken solemn possession of it in the name of the Crown of Portugal, and had sent a fast cruiser with the important news to Lisbon. His dispatches reached the Court long before Pinzon's return to Palos, and it was but natural King Emanuel should claim that his new possession reached as far to the northwest as Castile had planted her banner, which was at the *cabo desseado* and the Pearl Islands of Columbus's latest discovery. This view, however, must have been abandoned on the arrival of Pinzon, whose claim for an additional tract of land down to the mouth of the Amazon River was prior in date to that supported by the landing of Cabral.



No clear documentary evidence is left as to the discussions that at this stage of the great boundary question were taking place between the two kings. We only know that they personally were on the most friendly terms with each other. Besides, it is a known fact that the meridian of the mouth of the Amazon has, up to this day, remained the dividing line between Brazil and French Guiana. All the controversies that arose between the two bordering nations were only with regard to the actual spot on which Pinzon made his landing. We may still say it was in the spirit of a true and equitable compromise that the two monarchs agreed upon drawing the line at the place mentioned. It runs just midway between *Cabo Deseado* and *Cabo San Roque*.\*

Was the draughtsman, on the day he traced the chart, informed as to the number of *leguas* that he was to enter on the chart between the Cape Verde Island and the stipulated *marco*? Did he count only 370 *leguas*, or did he make the number accord with the distance as given by the log-book of Vic. Yañez Pinzon? or finally did he pay no attention to the matter, but work out the composition of his oceanic *tableau* as he thought best?

The last view cannot be entertained for a moment, since the chart is provided with a scale graduated in accurate spaces, and, therefore, evidently destined to serve as a key for the distances on the map. We find this scale delineated at the right below, and at the left above the chart, but neither in figures nor in words is the value

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\* Pinzon gave to this cape the name of *Cabo de Consolacion*; Cabral called it *Cabo S. Agostin*, and our map shows the name *San Yorge* (a misnomer for San Roque?); but this entry evidently was made by a hand different from that of the draughtsman.

of the spaces expressed, such being the bad habit of the ancient cartographers. Were it not for a passage preserved in the contemporary Peter Martyr,\* in which the learned councillor of King Ferdinand enters upon a discussion on the merits of La Cosa's chart, we should be without the authentic knowledge that the hydrographer's scale was arranged in spaces, each of these representing 12 *leguas*. On our chart the distance from the island of Santiago to the *marco* measures 35 spaces, and the length is, therefore, 420 *leguas*.

If Peter Martyr's statement is to be rejected as applicable, not to the Portuguese, but to the Spanish scale, the value to be assigned to the spaces on the Portuguese chart may be ascertained by trying the scale on well-known distances in the Mediterranean sea. We find the distance from *Cape Ceuta* to the west cape of Sicily to be 320 *leguas*, and that from Reggio (*Rezo*) to Cerigo (Satrill) 136 *leguas*; added together, these make 456 *leguas*, and give a continuous line, which is equal in length to one measured from the Island of Santiago to the Amazon meridian.

This line extends through 35 spaces of the chart. Each space, therefore, represents about 13 *leguas*, and this rough calculation agrees pretty closely with the figures given by Peter Martyr. It does not appear whether the King of Castile was conscious of having lost 86 *leguas* in longitude east by this agreement. In reality he lost much more; for the true distance comes near to 560 *leguas*. Had Castile firmly insisted upon her origi-

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\* *Petrus Martyr*, De rebus Oceanicis, Decada V, Cap. 7.—F. A. de Varnhagen, Examen de quelques points de l'hist. géogr. du Brésil, in Bulletin d. l. Soc. de Geogr. 4<sup>m</sup>e Serie, Tome XV, Mars, Paris, 1858.

nal claim of 370 *leguas*, the Portuguese dominion in North America would have been reduced to the small strip of land lying to the eastward of the meridian of Rio de Janeiro.

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IV.

## THE STELLÆ MARIS.

Let us now pass from this hasty survey of its general features to those which especially belong to *our* chart, and which are not found on any contemporary Spanish chart.

In this direction we note the representation of three naval stations. The one will be found at the Island of *Santiago* (Cape Verde), the second at the island of *Andros* (Bahama Archipelago), and the third on the mushroom-shaped Peninsula of *Paranagua* (Coast of Venezuela). The first is located east of the *raya*, in the Portuguese waters; the two others are in Spanish waters, west of the *raya*.

For the better understanding of what we mean by naval stations, let us say that this chart, as well as all the large marine charts of the epoch, shows on its surface, so to speak, a well devised system of inter-radiation, the radii starting from and crossing through a certain number of central points distributed all over the chart. From each of these central points 32 lines are seen radiating in the direction of the 32 points of the mariner's compass. The central points are represented in two different ways. One kind shows the centre figures arrayed in a perfect square, each of the four corners bearing the effigy of a carefully delineated and colored

*compass-rose*, also called *stella maris*. These had their location assigned by the hand of the cartographer to arbitrary positions, which served his planimetric purposes, and thus we see these *stellæ maris* on ground and waters never visited nor measured by travellers and mariners. The other centre figures, on the contrary, represented places really existing in nature, and these are conspicuous on the charts by the absence of the compass-rose. They designated the port from which the pilot used to start, the official naval station of his country. If this were explained nowhere else, we might learn it from La Cosa's chart. He drew a plain *stella maris*, without the effigy, near *Palos*, Castile's official seaport, and, another one, of the same kind, near the island *Habacoa*, the *Abaco* of to-day, a place well chosen to serve as a naval outpost against ships attempting to slip into the Spanish waters through the Bahama Channel, the shortest route from Lisbon or Madeira. *Palos* and *Habacoa* are connected by a line drawn through both centres, thereby showing that the latter island was reached by the "Greco-Levante," or E. N. E. wind. A third *stella* of the same kind, for which, however, we cannot find any historic interpretation, is represented on the west coast of Africa, south of the Bissago island.\* These three are the only plain *stellæ maris* to be found on the Spanish chart. All the others stand in square, and bear the effigy as described.

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\* Both charts show at this place a group of small islands, unnamed, which must be recognized, being the St. Ann Reefs and Sherboro islands of to-day. The Spanish nomenclature along the western coast of Africa, it will be noticed, is widely different from that of the Portuguese, a proof that although forbidden to enter these waters, the Spaniards were as unscrupulous in the non-observance of the treaty of Tordesillas as the Portuguese.

On our chart the *stella maris* of the official naval station is not met with at Lisbon nor at Madeira, as might be expected. The cartographer with great artistic as well as with patriotic tact gave it a far more becoming place, at the Cape Verde Island of Santiago, right in the middle of the great marine picture, and in the centre of the ocean that his king and nation had begun to rule. In any direction from this point, wherever one radius of the compass strikes a coast, it touches land discovered and conquered by Lusitania's courageous pilots.

It was but a short time before that the little island of Santiago had claimed the attention of Portugal, and that it had been found to be a most suitable maritime depot and station for her navy, so eager for distant oceanic explorations. It had been discovered in 1446 by Cadamosto and Anton de Nolle, two cavaliers, to whom Henry the Navigator had granted the permission of making explorations along the coast of Africa. When the Canary Islands had to be surrendered to ambitious Castile, the half-forgotten group of the Cape Verde Islands became the welcome rendezvous of the Portuguese. On their voyages along the scorching shores of Africa, the mariners here found the inestimable advantage of repose, with the opportunity for repairing damages and recruiting their strength. Wherever in the scanty records of that epoch mention is made of the early Portuguese expeditions to the Indies, we read of the admiral's making an anchorage at Santiago.\* Its selec-

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\* See J. de Barros, *Decada 1<sup>ma</sup> da Asia*, Lib. 4<sup>o</sup>, Cap. 2<sup>o</sup>. Lisboa, 1628. "Bartholomeu Dias. . . com bom *têpo tenerão* em treze dias *forão* ter *á Ilha de Santiago* que he a principal das do Cabo Verde, onde tomarão algum refresco." The

tion as the starting point from which to find the dividing *raya* in the West made it a much sought for centre of daring seamanship as well as of hydrographic speculation.

Considering all the facts and reasons by which our cartographer was prompted to bring the island of Santiago into the graphic relief of a naval station of his country, it is not without a certain degree of surprise that two more such stations are found drawn on the chart in the far west of the Spanish waters, a domain which the Portuguese were peremptorily forbidden to enter. No doubt, an interdiction like this must have been disregarded not only once, but many times and by both parties. No surveillance was possible on the immense expanse of these waters. Both parties knew this very well, and greed as well as mutual hatred ran the risk of capture. There is no record of Spanish prizes brought in by Portuguese, although the latter had a good chance for this if they ever got any knowledge of the Spanish station at the St. Ann-Reefs and the Sherboro Island. But we do read of a very formal complaint lodged with the Crown of Castile in the year 1503, which proves that inroads were made by Portuguese ships into the Caribbean sea, and gives us full insight into the true nature of these un-

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same. Dec. 1, *Lib.* 5°, Cap. 2 (A. 1499) "Pedralvarez com toda a frota fazendo sua viagem às ilhas do Cabo Verde." See also *Hieron. Osorius*, de Rebus Emanuelis Regis gestis, Olyssipone, MDLXXI., pag. 31. "Hoc eodem anno (1499) V° Idus Julii, Emanuel primum nuncium de rebus Indicis auspicio suo exploratis accepit. Quemadmodum gestum sit, est ab initio repetendum. Gama, ubi primum solvit Olyssipone, cursum ad Fortunatas insulas direxit, deinde insulam, quam appellant *Sancti Jacobi*, quae respicit Aethiopiam, lustravit . . . . Pag. 55. "Inde Gama ad insulam *Sancti Jacobi* ventis secundis apulit." Pag. 64. "Interim vero Capralis (Cabral), qui in Indiam navigabat, eundem cursum quem Gama, secutus est, donec ad Insulam Scti Jacobi pervenit."

bidden visits.\* Rodrigo de Bastidas, the discoverer of the gulf of Darien, who on these shores had some trading interests at stake, writes to the king that Portuguese vessels had made their appearance in these waters, that the crew had cut Brazil-wood on the coast, had plundered the natives and made away with a large cargo of slaves. Therefore, it was not the problem of the dividing meridian alone that lured these vessels into the distant waters, but the lucre resulting from the sale of the precious dye-woods and the human flesh, in the market of Lisbon, a trade besides, to which the Portuguese had been used for long years, and which they now tried to extend, because they could do this without much risk, and at the cost of the national enemy. All these circumstances concur to furnish an explanation why the cartographer felt prompted to draw the Santiago-Paranagua parallel, and to stamp the latter place with the character of a Portuguese sailing-port or naval station. Paranagua, then, belonged to the Bastidas-coast, and it is not without a certain significance that we find drawn on the chart at no great distance an island named Brazil.

North of this same place and at the head of the great Bahama Bank another naval station, the third on the chart, is found.

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\* See *Ramon de la Sagra*, Hist. phys. de Cuba, Vol. II, pag. 448, Apendice, where the renowned historiographer of the Faithful Island brings the following abstract, taken from the Registro de los titulos y de las nominaciones para los empleos de la casa de Contratacion de Sevilla, 1503-1579: "Le 13 Juillet, 1503, un courrier fut expédié à la cour pour donner avis de ce que l'on savait au sujet des bâtimens portugais, qui ont été à la terre de Bastidas, et en avaient enlevé des esclaves Indiens, et du bois de Brésil. Le 22 Août, 1503: Juan de la Cosa fut envoyé pour avoir des renseignemens sur ce que les Portugais avaient fait avec quatre navires, et sur un autre qu'ils avaient *convenus* envoyer cette année. Et Cosa donne à la Reine à Ségovie deux cartes marines des Indes."





It is worth while examining at what particular spot in the Bahama Islands this station was made. It excites our utmost curiosity. We see it placed, audaciously enough, in the very heart of King Ferdinand's newly acquired *insular* dominion, north of the large island of Isabella, and facing a large tract of coast to the west, covered with unknown names, and presenting an outline that corresponds with nothing in that direction. It is the picture of the same coast that appeared in the first editions of the Ptolemy, the one that Ruysch's Ptolemy of 1508 indicated as the last western point touched by King Ferdinand's vessels, a coast however, strange to note, that had remained entirely unknown to Castile's great cartographer La Cosa. Up to the finding of the Cantino chart the identification of this coast has been a puzzle. We believe that clear light may now be had on the subject, and must beseech the reader patiently to follow a comparison between the three maps of the Antillas, that of La Cosa, that of Cantino and the modern map, for which purpose we furnish the adjoining diagrams, 1, 2, 3. The interesting result will be reached thereby, that King Joam II. was far better informed about the distant west than King Ferdinand himself, that the shape and the proportions of the great Antillas are far more correctly represented, and the groups of the Bahama Islands more distinctly discriminated by the Portuguese hydrographers; all this implying on their part much cautious and silent labor, and a long sojourn, as indicated by the entry of the *stella maris* in the Bahama channels.

Let us begin with a comparison between La Cosa's and the modern map of la Española or Haiti. La Cosa

gives Haiti's axis nearly the length of that of Cuba, while it is in reality not quite half as long. The Cantino chart shows the proportions much better taken : Cuba = 1 and Haiti =  $\frac{2}{3}$ . On Cantino's outline of Haiti we miss the great western bay with its island of *Gonave*, as also the capes of *Tiburon* and *San Nicolas*, which are pretty well rendered by La Cosa. Such important features would surely not have escaped the Portuguese pilots and hydrographers if they had only dared to show their sails so near the thickly populated Spanish island. Nevertheless, the Portuguese knew of the existence of this bay. We find it drawn on Cantino's map on the north coast with the island of Gonave, whilst on the other hand *Tortuga island*, which is quite forgotten by La Cosa, stands in Cantino in its correct place. All these little points tend to show that the Portuguese hydrographers were in a sense independent of the Spanish surveys. Where the former had no chance to make their own survey, their representation grows defective, where they had free scope they surpass the Spaniards.

This point will be still more clearly shown when we pass to an examination of Cuba. It will be noticed, at the first glance, that the relative positions of the three islands, Cuba, Haiti and Jamaica, are so correctly represented on our chart that they almost appear to have been taken from a modern survey. La Cosa makes the mistake of pushing the western cape of Haiti far below the eastern end of Cuba, while the two points, in reality, lie due north and south, as they are placed on the Portuguese chart.

One of the most striking proofs, however, that the Portuguese had sound information as to the true dimen-

sions and shape of Cuba will be found by taking a glance at its western end. La Cosa gives to this end of the island the form of a hook bent to the south. Although our modern maps do not show these curving lines, La Cosa's design is still not so unfaithful to nature as it has been judged to be. He undoubtedly imagined the Island of Pines was a continuation of the mainland of Cuba, to which belief he was induced on account of the numberless large and small coral islands that obstruct the channel. The Portuguese chart also shows the same hook-shaped western end, but in addition to it a large peninsular body, which the copyist of the chart, for reasons later to be explained, chose to draw bending towards the north instead of the west, the true direction. It follows that this whole western tract of Cuba, from Havana to Cape San Antonio, which to-day is known to many of our readers by the name of *Vuelta de Abajo*, was still in the year 1500 unknown to its legitimate owners, but known and accurately surveyed by their spying rivals. Whatever mischief these intended to perpetrate, whatever information they wished to gather as to the extent and nature of King Ferdinand's Indian domain in the far west, they were able to work with full knowledge. Cuba, at this epoch, was still a desert. Only its southern coast, as we may learn from La Cosa's chart, had been surveyed, and its harbors and capes provided with names. The whole northwest, accessible from the *Stella maris* by deep waters, lay open at the mercy of the pirate.

But on which of the many Bahama Islands are we to look for their hiding-place?

The answer to this question can only be found after

**III**

*Modern Chart of the  
West-Indies.*

FLORIDA

CUBA

S. DOMINGO

JAMAICA

Puerto Rico

Havana

Santiago de Cuba

San Juan

Pinar del Rio

St. John

St. Peter

St. Paul

N. W. Passage

E. W. Passage

W. Indies

(Scale)

L. M.

(Rope Station)

a comparative examination of our three maps. Let us begin with counting on the two ancient maps the islands represented north of Cuba. La Cosa's chart counts 19 islands, of which 10 are provided with names; Cantino exhibits 18, with 11 names, and only five of these names agree in both, those of *habacoa*, *someto*, *haity*, *mariguana*, and *lucayo*, which goes far to show that the Portuguese did not depend entirely on the charts drawn by the Spaniards. We also notice that the former chart exhibits a marked endeavor to bring the grouping of the islands into greater prominence than the chart drawn by La Cosa, and it is just this conspicuous grouping which will make it easier for us to ascertain the identity of the individual islands.

To begin with the uppermost, that of *habacoa*, there is no doubt it stands for the many little insular bodies of which the island of Abaco on the modern chart is composed. Position as well as name confirm the fact.

South-east of Abaco, and separated from it by a broad channel, that of Providence of to-day, we cannot fail to recognize in the three islands east of the meridian of the *stella maris* the thrice-divided Andros group of our modern surveys, in which the island of Espiritu Santo suggests the identification with the *ilha Santa* of our chart.

North-east of this Andros group, and separated by a channel, which probably was intended to represent the large inlet now called the "Tongue of the Ocean," we find another group of three islands, inscribed with the name *Someta*. These suggest to us the islands of Providence, San Salvador, and Eleuthera of our modern maps.

South of these, the large island surrounded by reefs which bears the name of *haty*, seems to represent the modern Cat Island, the great Exuma, and the girdle of reefs that embosoms what is to-day called the Exuma Sound.

Watling, Rum Cay and Yuma Island may be recognized in what the Portuguese called *ilha managua* (to-day, Mariguana), and *macabiza* and *bauestico* would represent the Atkin Islands. The Crooked-passage between them and the former is distinctly marked.

Undoubtedly the two next unnamed islands were meant to represent the modern Caicos group with its additional southern bank, Turks passage on the right being left open.

Then follows Turks-island, named *Janucanata*, Mouchoir carré or *ilha de lucayo*, Silver bank or *Caycemen*, and in the *baixos de abre los olhos* we are justified in recognizing the perilous reefs of *la Navidad*.

As to the great Bahama Bank, it is pretty correctly represented in La Cosa's as well as in our chart, inasmuch as in both its southern edge is made parallel with the north coast of Cuba.

In both ancient charts, finally, we meet with a *stella maris* north of the island of Cuba. There will be noticed however a palpable difference in regard to their location. La Cosa puts his *stella maris* far to the west of the Bahama Bank and Abaco, at the entrance of the Florida channel, whilst in our chart the location of the *stella maris* is to the east of the Bahama Bank and in the vicinity of what we have recognized as the Andros island, the two stations being separated therefore by a distance

of about 160 miles. The position of the Spaniard in this channel, as already mentioned, was well chosen. It must have been destined to protect this entrance against the much dreaded inroads of foreign vessels, because it could not be supposed that they would choose their passage through the much frequented southern channels of the little Leeward Islands, since these had become the customary lines of Spanish traffic between Palos and the harbors of La Española. It is only surprising that with this channel station so near the coast of Florida, that peninsula was not discovered before the year 1514.

On the other hand, this Portuguese station near Andros Island suggests some interesting reflections. The whole Bahama archipelago might be vainly searched to find a hiding-place better adapted to piratic enterprise than the one Andros offers. It stands at the front of the other large oceanic channel, that of Providence, thus affording a wide outlook to the open sea. At its back is a basin of deep water, the so-called "Tongue of the Ocean," girdled by a circular string of countless banks and islets, through the channels of which the expert may seek entrance or slip out on any emergency. Andros, moreover, is the only place in the Bahamas that has a creek of fresh water to supply a fleet with this necessary of life and keep it anchored during all seasons. History informs us how long and how successfully this very place served as an unapproachable resort and unconquerable bulwark to the pirates of all nations. Not until 1718 did the British and their Captain Wood Rogers succeed in making an end to the mischief by taking possession of Providence Island and building Fort Nassau. Inci-

dentally it may also be remarked here that Christopher Columbus, on his first voyage, if he had persevered in his initial strictly western course, would have sailed right into the mouth of the Providence channel. But it happened that when upon the 7th of October, 1492, no land had been descried by his impatient crew, Columbus had been forced to yield to the entreaties of Alonso Pinzon, and to change his course to the south-west, so as to lose himself in the labyrinthine reefs and banks encompassing Exuma and Long Island. Therefore, if King Joam and his courtiers listened, as we have every reason to believe they did, with the utmost attention to Columbus's narrative, and especially noted his forced change of course toward the south, because this new course implied a violation of the ancient demarcation line, and if furthermore, as we know, the king secretly dispatched the four caravels to discover the track of Columbus, it almost seems as if, cautioned by his sad experiences and dangers run in the labyrinth of the Long Island and Exuma shoals, the caravels had steadily kept his original western course and thus by entering the Providence channel, had seen Andros heaving out her broad shoulders in the blue horizon. What better could they do than rest at such a place, their first landfall after crossing the wide ocean! Columbus's boasted secret was now in their possession. They must have been pretty busy later on in trying to identify the other islands, to which Columbus had given the names of Concepcion, Juana, Fernandina and so on. They must have remembered the name of a certain fort *Isabella*, which he had built on the southern shore of the large island of *haty*, where he had left his brother Bartholomew with a small garrison. Now,



south-west of Andros the Portuguese had reached, as was pointed out above, a large island, that of Cuba. It was the only island that they could meet with after leaving Andros for a farther western cruise. Very likely they took it for Columbus's *haty*, and in their first bewilderment they put it on their sailing chart with the name of *Ysabella*.

Islands are but monitors of a not distant continent. The old Portuguese salts knew this from their Mediterranean and African experiences. If they were now bent upon paying a visit to Columbus's Indies, they had no other choice than to keep their prow turned toward the west. Onward they sailed. The western end of Cuba, the Cape of San Antonio, came in sight. Survey and information taken on the spot proved that it was part of an island ; but they were in search of a continent. The natives must have repeated to them the story that had been told to Columbus, but which he had disregarded—that “with one day's gentle breeze a continent could be reached, inhabited by people wearing clothes down to knee and ankle, and many of them as pompously attired as the chaplain of the foreign vessel when he was reading mass.” \*

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\* We find Columbus oftentimes reproached for not having pushed farther to the west on his first and second voyages to the island of Cuba, and for having delayed in this way the discovery of the shores of Central America. The reproach is unjust. On both occasions his ships were in a most dilapidated condition, his provisions at an end, and the crew were unwilling to risk their lives in any farther adventurous expedition. See *Historie del Sig. Don Fernando Colombo*, Milano, 1614, Cap. LVII., pag. 232. “Et a' 7. di Luglio dismontó (Colombo) ad udir Messa in terra, dove gli si accostó un Cacique vecchio, Signor di quella Provincia, it quale stette molto attento alla Messa . . . et fra le altre cose disse, che egli era stato nell' Isola Spagnuola, et vi conosceva de' principali huomini : si como anco in Giamaica : et che era andato molto verse l'Occidente di Cuba, et che il Cacique di quella parte *vestiva come Sacerdote*.” Expressed in other words but of very like

The coast they found in this direction is drawn in our chart, like a barrier stretching from south to north. It is inscribed with twenty-one names, most of them only such as sailors use to give, but all of them in the Portuguese language.

There is no coast of this configuration directly opposite to the Cuban cape of San Antonio. What section of the American continent this coast was intended to represent in the maps of the Ptolemies and of Schoener, as well as in this recently discovered Cantino map, is a question that has so far remained without an answer.

Let us approach this subject by first examining the names.

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V.

THE NAMES INSCRIBED ON THE COAST.

Upon approaching the discussion of this subject, it will be convenient to the reader to have before his eyes the three pictures of this portion of the New World, published in Europe, in the successive years of 1508, 1513 and 1520. They are represented in the diagrams Nos. 2, 3 and 4, No. 1 giving Cantino's chart. The reading of the names, as they are inscribed on this chart will first occupy us.

They were written unquestionably by the hand that drew the whole chart. This happy circumstance enables us to determine by means of comparison the identity of

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tenor are the reports given of the same subject by *Andrez Bernaldez*, the Cura d. l. Palacios, who gathered them from Columbus's own lips. See the translation of his *Historia d. l. Reyes Católicos* in Collection of the Massachusetts Historical Society, Vol. VIII., 3d Series, pages 6-68.

any letter, in case of doubt as to the interpretation of its alphabetic value.

The letters are written in the cursive Gothic alphabet, commonly employed, at this epoch, by all the calligraphers of southern Europe. They are the work of an experienced and steady hand, and are cut so clearly as to give the impression of being printed rather than drawn with the pen.

The names inscribed upon the coasts of the two old continents follow each other in such close succession that the draughtsman, for the relief of the reader's eye, occasionally changes from a black to red lettering. On the New Continent the names of Portuguese Brazil are all written in red, those of the Spanish portion, the discoveries of Columbus and Bastidas in black, the Antillas again in red, and the names of the coast unknown to us all in black. All of them without exception are inscribed upon the land; a very judicious arrangement, because the eye of the reader, in this way, gets a clear impression of the outlines of the coast.

The idiom employed is the Portuguese, though here and there, and mainly with the articles, Spanish and Italian forms appear to be intermixed.

Beginning our examination with the south of the unknown coast, we meet with the names:

1. *Rio de las palmas*.—The reading of it, as well as the translation, "river of the palms" (Palm river) gives no matter for discussion.

2. *Rio do corno*.—The letter *n* in *corno* is so clearly expressed, as not to admit any change into a conjectural *u* or a *v*. The translation, therefore, will be: *Horn river*, a river that, like many others, showed

an alluvial horn or curve at its *debouchure* into the ocean.

3. *C.: arlear.*—The abbreviation of Cabo, or cape, as made with three points, is typical on this chart. It will be observed at other similar places. The word *arlear*, in the mariner's language of that time, signifies to strike sails, the correct form for it being in the Portuguese language *arrear*.

4. *C.: do lurcor.*—Must be read *lurcar*, and in better form *lucrar*, the use of the metatheses of this kind being very common in Spanish and Portuguese vulgar speech. *Lucrar* means to gain, to make a lucre. It corresponds to the Spanish *rescatar*, to barter on foreign coasts. Hence, *the cape of barter*.

5. *C.: do mortinbo.*—By the simple change of the letter *b* into an *h*, the word would give a sense, and might be translated by *Cape of myrtle-seed*.

The *myrtaceae*, however, do not grow on tropical coasts; they only thrive at an elevation of about 6000 feet above the sea. We, therefore, think the word must be read *Martinho*, a proper name appearing in various forms, as: *Martin*, *Martim*, *Martimho*. A port of Portugal opposite the Berlengas Islands bears the name: *concha de San Martinho*, and on other maps *Mortinho*. Thus we translate: *Martin's-cape*.

6. *Cabo.: lurcar.*—This time the letter *a* is clearly expressed, and the repeated occurrence of the name will not surprise, when we consider that the chief interest of the trading mariner was to note the places at which he had the opportunity of bartering with the natives.

7. *El golfo baxo.*—To be translated: *the deep gulf*, a name very appropriate for this deep twin gulf, by the

side of which it stands written. The left cross-stroke of the *x* does not appear in full continuation, its end showing distinctly beneath the preceding letter *a*. Compare No. 12, where a like break of the left cross-stroke of the letter *x* is found in a word, for which there is no other reading than *roixa*, *red*.

8. *C.: do fim de abril*.—The dot over the *i* in *abrill* is not quite clearly marked, and the word might be read *abrell*, which, however, conveys no meaning at all, and *abrill* must stand, so that the name signifies: *Cape of the end of April*. This nomenclature would suggest the idea that the cape was made at the end of the month of April. We know of but a single instance in which the name of a month was given to a place discovered by the Portuguese, that of the Brazilian bay of *Janeiro* (January). Whenever a proper name was given by them or by the Spanish mariners, it was that of a person, and, in particular, that of a saint of the calendar. Nevertheless, admitting the precedent of *Janeiro*, we may suppose that this cape was reached on the 30th of April. *Beda's Martyrologia Romana*, Vol. V., page 334, shows that this day is that of SS. Marianus et Jacobus, a nomenclature which possibly may have been rejected on account of its length; and for a like reason others, such as *Cabo do ultimo de Abril*, or *Cabo do trinta de Abril*. On the assumption that King Joam's caravels left Madeira by the middle of the month of March, 1493, it is not at all improbable that they struck this cape on the last of April, after a navigation of six weeks.

9. *Cornejo*.—It is positively impossible to decide whether the name reads *Coruejo* or *Cornejo*. The very strange shape of the penultimate letter invites to com-

parison with others of the kind. We find it occurring again in *Jenoves* and *San Jorge*, and therefore must write it *Cornejo* and pronounce like French *Cornejo*. Italians and Spaniards also would incline to write this name *Cornello* and sound it like *Cornellio*. Just as the word stands, it does not admit of any translation. Undoubtedly it is a native name and presents one of those perplexing cases of misspelling on the part of the copyist, who himself may have been at a loss how to read this name from the original map or from his intermediate copy. Ruysch, Ptol. 1508, reads *Corveo*, the Ptolemy of 1513, *Contello*, and Schoener, 1520, *Coniello*. The discussion of this name will be taken up again in the next chapter.

10. *Rio de dō diego*.—Written out in full—*Rio de don* or *dom Diego*, *Diego river*.

11. *C.: delgado*.—To be translated: *Narrow Cape*.

12. *Pūta roixa*.—Transl. : *Red Point*.

13. *Rio de las almadias* signifies: *Canoe river*. The word *almadia* is of Moorish origin, meaning a boat hewn out of one single trunk, in contra-distinction to the timber-made boats of the Portuguese and Spaniards.

14.—*Cabo Santo* is the *Holy Cape*.

15. *Rio de los lagartos* or the *Alligator river*.

16. *Las cabras*.—As the words stand, they ought to be translated: *the Goats*. Such a name, just at this place, seems to be inadmissible. The letter *c* is rather to be viewed as a common national aspirate, and the reading should be therefore *abras* instead of *cabras*. This reading was proposed by Mr. Harris, and affords full satisfaction. For just at this place (as will be shown

further on) the coast presents a succession of inlets or channels opened by the impetus of the surf, and for these the Spaniards used to employ the word *bocas* or *mouths*.

17. *Lago luncor* or the *Luncor* (?) *lagune*. This does not admit of any plausible interpretation.

18. *Costa alta* or the *High-coast*.

19. *Cabo de boa ventura* or *cape of Good Luck, Lucky Cape*.

20. *Canpice*—The *p*, as it stands on the chart, at first sight looks like an *f*; and the reading would then be *canfuce*. Upon closer examination, however, the apparent *f* will be found to represent a *p*, as this letter is elsewhere written on the chart. If it were meant for an *f*, it ought to show the long flag-dash, which it has not. No interpretation can be found for this word *canpice*. Probably it is of native origin. Ruysch, as will be seen, leaves it out entirely. The Ptolemy of 1513 writes very indistinctly: *Caninar*, and Schoener 1520, *caninor*. The explanation suggests itself that the copyist himself was embarrassed in reading his original text. The word did not fall within the compass of his linguistic experience.

21. *Cabo d. licôtu*.—The abbreviation does not admit of other and better completion, than that of *Cabo del incontro*, which means the Cape of Encounter, or combat. Ruysch has *C. Elicontii*. The Ptolemy of 1513 *C. delicontre* and Schoener, 1520, *Cabo dellicontis*.

22. *Costa del mar Vacano*.—Correctly recognized, but rendered in bad orthography, this inscription will be found in the Ptolemy of 1513 with *C. del mar usiano*, or the *Cape of the Ocean Sea*.

At this place the picture of the coast comes to an end, and by this last inscription our hydrographers evidently did not intend to express anything more than that their exploration and survey were stopped here on account of the coast and the ocean extending before their eyes to an immeasurable distance.

From this attempt at a correct reading of the names, we now pass on to examine whether these names may be made to disclose the identity of the places upon which they were bestowed by the Portuguese cartographer.

*(To be continued.)*